

AMENDMENT TO THE CLAIMS

This listing of the claims replaces all prior versions of the claims in the application.

1. (currently amended): A composition, comprising a plurality of separately detectable cells encoded with ~~a detectable label, wherein the detectable label comprises a semiconductor nanocrystals~~ that is localized in the cytoplasm, nucleus, or an organelle of the cells, ~~wherein the cell further comprises an organic fluorophore.~~

2. (currently amended): The composition of claim 1, wherein the cells [[is]]are prokaryotic.

3. (currently amended): The composition of claim 1, wherein the cells [[is]]are eukaryotic.

4. (currently amended): The composition of claim 3, wherein the cells [[is]]are selected from the group consisting of [[a]] yeast cells, [[a]] mammalian cells and [[a]] plant cells.

5. (currently amended): The composition of claim 4, wherein the cells [[is a]] are mammalian cells selected from the group consisting of a human cell, a mouse cell, a rat cell, a bovine cell, and a hamster cell.

6-10. (canceled)

11. (currently amended): The composition of claim 1, wherein the semiconductor nanocrystals comprise[[s]] a core and a shell.

12. (original): The composition of claim 11, wherein the core is selected from the group consisting of ZnS, ZnSe, ZnTe, CdS, CdSe, CdTe, HgS, HgSe, HgTe, MgS, MgSe, MgTe, CaS,

CaSe, CaTe, SrS, SrSe, SrTe, BaS, BaSe, BaTe, GaN, GaP, GaAs, GaSb, InN, InP, InAs, InSb, AlAs, AlP, AlSb, AlS, Ge, Si, Pb, PbS, PbSe, an alloy thereof, and a mixture thereof.

13. (original): The composition of claim 12, wherein the core is CdSe.

14. (original): The composition of claim 13, wherein the shell is ZnS.

15. (canceled)

16. (withdrawn): A method of distinguishably identifying a cell, comprising: providing a cell; and contacting the cell with a semiconductor nanocrystal and an organic fluorophore under conditions in which the semiconductor nanocrystal and the organic fluorophore are associated with the cell to provide a labeled cell thereby identifying the cell.

17. (withdrawn): The method of claim 16, wherein the semiconductor nanocrystal comprises a core and a shell.

18. (withdrawn): The method of claim 17, wherein the core is selected from the group consisting of ZnS, ZnSe, ZnTe, CdS, CdSe, CdTe, HgS, HgSe, HgTe, MgS, MgSe, MgTe, CaS, CaSe, CaTe, SrS, SrSe, SrTe, BaS, BaSe, BaTe, GaN, GaP, GaAs, GaSb, InN, InP, InAs, InSb, AlAs, AlP, AlSb, AlS, Ge, Si, Pb, PbS, PbSe, an alloy thereof, and a mixture thereof.

19. (withdrawn): The method of claim 18, wherein the core is CdSe.

20. (withdrawn): The method of claim 19, wherein the shell is ZnS.

21-24. (canceled)

25. (withdrawn): The method of claim 16, wherein the conditions comprise forming pores in the cell.

26. (withdrawn): The method of claim 25, wherein the pores are formed by contacting the cell with a porogen.

27. (withdrawn): The method of claim 26, wherein the porogen is digitonin.

28. (withdrawn): The method of claim 26, wherein the porogen is a member of the complement cascade.

29. (withdrawn): The method of claim 25, wherein the pores are formed in the cell by electroporation.

30. (withdrawn): The method of claim 25, wherein the pores are formed by osmotic shock.

31. (withdrawn): The method of claim 16, wherein the conditions comprise contacting the cell with an SCNC-containing micelle.

32. (withdrawn): The method of claim 31, wherein the micelle is formed by an agent selected from the group consisting of cholic acid, glycocholic acid, and taurocholic acid, and salts thereof.

33. (withdrawn): The method of claim 16, wherein the conditions comprise microinjection.

34. (withdrawn): The method of claim 16, wherein the conditions comprise endocytosis.

35. (withdrawn): The method of claim 17, wherein the semiconductor nanocrystal contains a localization signal for a subcellular component.

36-37. (canceled)

38. (withdrawn): A method of identifying a cell in a mixed population of cells, comprising mixing the composition of claim 1 with a cell distinct therefrom to form a mixed population, culturing the mixed population, applying an excitation source to the mixed population, and detecting the detectable label to identify the encoded cell.

39-73. (canceled)

74. (currently amended): The composition of claim 1, wherein the cells ~~detectable label~~ comprise a semiconductor nanocrystal conjugated to a translocatable molecule.

75. (currently amended): The composition of claim 74, wherein the translocatable molecule is a ligand for a cellular receptor that enters the cells by endocytosis.

76. (previously presented): The composition of claim 75, wherein the translocatable molecule is a ligand for a G-protein coupled receptor (GPCR).

77. (previously presented): The composition of claim 74, wherein the translocatable molecule is a ligand for a transporter.

78. (currently amended): The composition of claim 74, wherein the translocatable molecule is ~~an HIV-Tat peptide~~ a cationic polymer consisting of 5 to 25 contiguous Lys and/or Arg residues.

79. (previously presented): The composition of claim 1, wherein the composition further comprises a porogen or liposome.

80-108. (canceled)

109. (new): The composition of claim 1, wherein the cells are encoded with a plurality of distinct semiconductor nanocrystals.